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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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	•	Application Number	10/828,579	
INFORMATION DISCLOSURE	Filing Date	April 20, 2004		
		First Named Inventor	A. Smith	
SI	NFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Art Unit	2878	
	(Use as many sheets as necessary)	Examiner Name	Not yet assigned	
oot	1 015	Attorney Docket Number	38203-6294	

Examiner	Cite	Document Number	Publication Date	DOCUMENTS Name of Patentee or	Pages, Columns, Lines, Where	
Initials*	Cite No.1	Number-Kind Code ^{2 (5 known)}	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear	
MAY	Α	^{US-} 4,861,148	08/29/1989	Sato et al.		
1	В	^{US-} 5,285,236	02/08/2004	Jain		
	С	^{US-} 5,808,814	09/15/1998	Kudo		
	D	^{US-} 6,142,641	11/07/2000	Cohen et al.		
A	Ε	^{US-} 6,356,345	03/12/2002	McArthur et al.		
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			<u>IGN PATENT DOCU</u>	MENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	Γ
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Cabana				Application Number	10/828,579	
INFO	ORMATION	DIS	CLOSURE	Filing Date	April 20, 2004	
STA	STATEMENT BY APPLICANT			First Named Inventor	A. Smith	
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Sheet	2	of	5	Attorney Docket Number	38203-6294	

•		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
Wи	F	R. DeJule, "Mix-and-Match: A Necessary Choice", Semiconductor International, February 2000, pp. 66-76.	
	G	D G. Flagello et al., "Understanding Systematic and Random CD Variations Using Predictive Modelling Techniques", Proc. SPIE Vol. 3679, March 1999, pp. 162-175.	
	D. Cote et al., "Micrascan™ III Performance of a Third Generation, Catadioptric Step and Scan Lithographic Tool", Proc. SPIE Vol. 3051, pp. 806-816.		
		J. Mulkens et al., "ArF Step and Scan Exposure System for 0.15 µm and 0.13 µm Technology Node?", Proc. SPIE Vol. 3679, March 1999, pp. 506-521.	
	J	M. A. van den Brink et al., "New 0.54 Aperture i-Line Wafer Stepper with Field by Field Leveling Combined with Global Alignment", Proc. SPIE Vol. 1463, 1991, pp. 709-724.	
	К	R. Rogoff et al., "Photolithography Using the Aerial™ Illuminator in a Variable NA Wafer Stepper", 1996, pp. 1-17.	
	L	J. Mulkens et al., "High Throughput Wafer Steppers with Automatically Adjustable Conventional and Annular Illumination Modes", pp. 1-14.	
	М	L. Liebmann et al., "Understanding Across Chip Line Width Variation: The First Step Toward Optical Proximity Correction", Proc. SPIE Vol. 3051, 1997, pp. 124-136.	
1	N	J. van Schoot et al., "0.7 NA DUV Step & Scan System for 150nm Imaging with Improved Overlay", Proc. SPIE Vol. 3679, 1999, pp. 448-456.	

Examiner Signature \(\sum_{\text{in}} \sum_{\text{N}} \text{VU} \sum_{\text{Considered}} \)	260405
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Cubotiin				Application Number	10/828,579
INFO	ORMATION	DIS	CLOSURE	Filing Date	April 20, 2004
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	A. Smith
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Sheet	3	of	5	Attorney Docket Number	38203-6294

	NON PATENT LITERATURE DOCUMENTS	
Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
0	H.G. Müller et al., "Large Area Fine Line Patterning by Scanning Projection Lithography", MCM Proceedings, 1994, pp. 100-104.	
Р	J.E. Bjorkholm et al., "Reduction Imaging at 14 nm Using Multilayer-coated Optics: Printing of Features Smaller than 0.1 •m", J. Vac. Sci. Technol. B8(6), pp. 1509-1513, 1990	
Q	B.E. Newnam et al., "Development of XUV Projection Lithography at 60-80 nm", Proc. SPIE, Vol. 1671, 1992, pp. 419-436.	
R	J. Kirk et al., "Pinholes and Pupil Fills", Microlithography World , Autumn 1997, pp. 25-28.	
s	N. Farrar et al., "Illuminator Characterization Using In-Siu Reticle Diagnostic Structures".	
Т	N. Seong et al., "Differences of Pattern displacement Error Under Different Illumination Conditions", Proc. SPIE, Vol. 3334, 1998, pp. 868-872.	
U	N. R. Farrar, "Effect of Off-Axis Illumination on Stepper Overlay", Proc. SPIE, Vol. 2439, 1995, pp. 273-275.	·
V	J. H. Bruning, "Optical Lithography - thirty Years and Three Orders of Magnitude", Proc. SPIE Vol. 3051, 1997, pp. 14-27.	
w	D. G. Flagello et al., "Towards a Comprehensive Control of Full-Field Image Quality in Optical Photolithography", 1997, pp. 1-14.	
х	J. Greeneich et al., "Advanced i-Line Illumination", Microlithography World, 1996, pp. 7-8.	·
	No.1 O P Q R S T U V	Cite No. Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. H.G. Müller et al., "Large Area Fine Line Patterning by Scanning Projection Lithography", MCM Proceedings, 1994, pp. 100-104. J.E. Bjorkholm et al., "Reduction Imaging at 14 nm Using Multilayer-coated Optics: Printing of Features Smaller than 0.1 •m", J. Vac. Sci. Technol. 88(6), pp. 1509-1513, 1990 B.E. Newnam et al., "Development of XUV Projection Lithography at 60-80 nm", Proc. SPIE, Vol. 1671, 1992, pp. 419-436. J. Kirk et al., "Pinholes and Pupil Fills", Microlithography World , Autumn 1997, pp. 25-28. N. Farrar et al., "Illuminator Characterization Using In-Siu Reticle Diagnostic Structures". N. Seong et al., "Differences of Pattern displacement Error Under Different Illumination Conditions", Proc. SPIE, Vol. 3334, 1998, pp. 868-872. N. R. Farrar, "Effect of Off-Axis Illumination on Stepper Overlay", Proc. SPIE, Vol. 2439, 1995, pp. 273-275. V. J. H. Bruning, "Optical Lithography - thirty Years and Three Orders of Magnitude", Proc. SPIE Vol. 3051, 1997, pp. 14-27. W. D. G. Flagello et al., "Towards a Comprehensive Control of Full-Field Image Quality in Optical Photolithography", 1997, pp. 1-14.

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Substitut	Substitute for form 1449/PTO			Complete if Known		
Coosais				Application Number	10/705,597	
	•			Filing Date	November 10, 2003	
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	A. Anandakumar	
	NFORMATION DISCLOSUSTATEMENT BY APPLICA (Use as many sheets as necessary)	nenecamil	Art Unit	2133		
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Sheet	4	of	5	Attorney Docket Number	39908-6214	

			NON PATENT LITERATURE DOCUMENTS	
Exan Initia		Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
W	W	Y	D. W. Peters, "The Effects of an Incorrect Condenser Lens Setup on Reduction Lens Printing Capabilities", pp. 457-463.	
		Z	N. M. Ceglio et al., "Soft X-Ray Projection Lithography", J. Vac. Sci. Technol. B 8 (6), Nov/Dec 1990, pp. 1325-1328.	
		AA	Y. Borodovsky, "Impact of Local Partial Coherence Variations on Exposure Tool Performance", Proc. SPIE, Vol. 2440, pp. 750-770.	
		AB	H. Nomura et al., "Overlay Error Due to Lens Coma and Asymmetric Illumination Dependence on Pattern Feature", Proc. SPIE Vol. 3332, pp. 199-210.	
	AC		B. Katz et al., "High Numerical Aperture I-Line Stepper".	
		AD	D. S. Goodman et al., "Condenser Aberrations in Köhler Illumination", Proc. SPIE Vol. 922, 1988, pp. 108-134.	
		ΑĘ	C. Krautschik et al., "Mathematical Treatment of Condenser Aberrations and their Impact on Linewidth Control", Final Rev, March 23, 1999, pp. 1-12.	
		AF	International Technology Roadmap for Semiconductors, 2001 Edition, Front End Process", SEMATECH, pp. 1-44.	
		AG	International Technology Roadmap for Semiconductors, 2001 Edition, Executive Summary", SEMATECH, pp. 1-58.	
\	1	АН	International Technology Roadmap for Semiconductors, 2001 Edition, Lithography", SEMATECH, pp. 1-17.	

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				Examiner Name	Not yet assigned
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Vhn	Al	International Technology Roadmap for Semiconductors, 2001 Edition, Metrology", SEMATECH, pp. 1-25.	
1	LA	International Technology Roadmap for Semiconductors, 2001 Edition, Modeling and Simulation", SEMATECH, pp. 1-16.	
	AK	International Technology Roadmap for Semiconductors, 2001 Edition, Yield Enhancement", SEMATECH, pp. 1-27.	
	AL	J. E. Bjorkholm, "EUV Lithography - the Successor to Optical Lithography?", Intel Technology Journal, 1998, pp. 1-8.	
	АМ	M. L. Freed, "Wafer-Mounted Sensor Arrays for Plasma Etch Processes", 2001, pp. 159.	
	AN	G. J. Swanson, "Binary Optics Technology: The Theory and Design of Multi-Level Diffractive Optical Elements", August 1989, pp. 47.	
	AO	W. Däschner et al., "General Aspheric Refractive Micro-Optics Fabricated by Optical Lithography Using a High Energy Beam Sensitive Glass Gray-Level Mask",	
		J. Vac. Sci. Technol., B 14(6), Nov/Dec 1996, pp. 3730-3733.	
	AP	A.J. de Ruyter et al., "Examples of Illumination Source Effects on Imaging Performance", Arch Chemicals Microlithography Symposium, September 22, 2003, pp. 1-8.	
$\sqrt{}$	ÄQ	Born et al., "Principles of Optics", 1959, pp. 524-526.	

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